UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,961	07/31/2001	Aaron Valdivia	PD-200257	2564

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Hughes Electronics Corporation
Patent Docket Administration
Bldg. 1, Mail Stop A109
P.O. Box 956
El Segundo, CA 90245-0956

EXAMINER
MATAR, AHMAD

ART UNIT	PAPER NUMBER
2614	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	09/918,961	VALDIVIA ET AL.
	Examiner	**Art Unit**	
	Aamir Haq	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>23 July 2007</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1 - 10, 15 - 20, and 27 -33</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1 - 10, 15 - 20, 27 - 30, and 32</u> is/are rejected.

7)☐ Claim(s) <u>31 and 33</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All b)☐ Some * c)☐ None of:

　　　　1.☐ Certified copies of the priority documents have been received.

　　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   This action is in response to applicant's amendment filed on 7/23/2007. Claims 1

– 10, 15 – 20, and 27 – 33 are now pending in the present application.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

2.   Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention. The third paragraph of the claim states "comprising

information related to . . ." "Related to" is vague and indefinite. Correction or

clarification is required. All subsequent recitations are also rejected (i.e. claims 31 and

33).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 – 10, 15 – 20, 27 – 30, and 32 are rejected under 35 U.S.C. 103(a) as

being unpatentable over US 6,366,761 (Montpetit) in view of US 4,800,561 (Ishi).

As to claims 1, 9, 15, 27, 28, 30, and 32, Montpetit discloses a system for

providing automated distributed provisioning satellite resources in a satellite

communication network comprising:

- at least one satellite (see figure 10 of Montpetit), said satellite comprising a

  plurality of antenna elements for receiving transmissions (satellites inherently

  contain antennas for transmitting and/or receiving signals) from geographically

  distinct cells (see figures 1 and 2 of Montpetit), a plurality of demodulators each

  adapted to demodulate signals in a particular frequency band (65, 69 and 89 in

  fig. 10 of Montpetit), and a payload processor (81, 83 and 85 in fig. 10 of

  Montpetit), wherein said resources comprise a plurality of channels for

  transmitting information to or from said satellite.

- a satellite resource allocation plan, comprising information related to the payload

  configuration over time and an allocation of satellite capacity pools amongst a

  plurality of remote network operators at geographically distributed locations (col.

  2 line 53 – col. 3 line 23 and col. 15 lines 30 – 56 of Montpetit)

- a capacity management unit having a plurality of network interfaces displayed to

  and accessible by the remote network operators (see "satellite terrestrial

  interface" in col. 4 lines 61 – 64, col. 5 line 9), wherein the capacity management

  unit is adapted to automatically (i) receive a capacity allocation plan (see

  "specified volume of data packets" in col. 8 lines 32 – 35) from any one of the

  remote network operators requesting a capacity allocation within one or more

  capacity pools allocated to said one network operator, (ii) determine whether said

capacity allocation plan can be fulfilled based on a plurality of system constraints

including the satellite resource allocation plan (fig. 9 and col. 11 lines 4 – 27 of

Montpetit), (iii) to update the satellite resource allocation plan based on results of

the determination and to send commands to said payload processor in order to

modify the payload configuration to satisfy the capacity allocation plan (fig. 9 and

col. 11 lines 4 – 27 of Montpetit). Note that it is inherent that if a new bandwidth

plan is allocated (in response to a request) the "payload" will be reconfigured to

adapt to the new bandwidth parameters.

Montpetit does not disclose expressly a switch matrix is used for connecting

antennas elements and demodulators. However, at the time of the invention, using a

switch matrix to connect the demodulators and antenna elements would have been

obvious to one of ordinary skill in the art. This is because the switch matrix was

notoriously old and well known at the time of the invention in the satellite art.

Ishi evidences this by teaching the use of a switch matrix (206 in fig. 1 and col. 1

lines 16 - 46 of Ishi) in conjunction with antenna elements (200 in fig. 1 of Ishi) for

communicating with a plurality of earth stations (203 in fig. 1 of Ishi). Among other

reasons, the switch matrix is used "for selectively connecting the up-links and

downlinks" (col. 3 lines 15 – 16 of Ishi). The "switch matrix sequentially selects a

plurality of connection modes based on predetermined time schedules" (col. 3 lines 20 -

23 of Ishi). Obviously, one of ordinary skill in the art would have understood that this

selection could be based on a bandwidth demand requests as taught by Montpetit.

Additionally, the crux of applicant's invention is a using a remote interface for demanding bandwidth from a satellite. Montpetit clearly teaches this. The slight difference in the switch matrix would have been obvious to one of ordinary skill and would are cured by the prior art of Ishi. In addition, see pertinent prior art section for other references that evidence the use of switch matrices in satellite systems.

As to claims 2, 3, and 8, as depicted in fig. 3, the remote stations with user interfaces (col. 4 lines 59 – 64 of Montpetit) are connected to networks. These networks can obviously be local area, wide are, or internet connections.

As to claims 4 – 6, 10 and 16 – 20, Examiner takes official notice that it would have been obvious to one of ordinary skill in the art at the time of the invention that the provisioning or bandwidth on-demand of satellite resources is directly correlated to physical satellite constraints (i.e. number of antennas, demodulators, and switches). Obviously, a satellite can only allocate resources that are within the satellites physical limitations. Components such as antennas, switches and demodulators have maximum capabilities that cannot be exceeded. Therefore, the satellite must adhere to these limitations and not allocate resources above the components thresholds. Furthermore, the satellite must determine whether the components are capable/available to perform the required task before allocating.

Additionally, Montpetit teaches:

Returning to FIG. 11B, the BAP references the portion of a bandwidth allocation request requesting bandwidth for packets with the highest priority status (block 214). The BAP evaluates the bandwidth allocation request and determines whether uplink transmission capacity is available for the amount of bandwidth requested (block 216). More particularly, the BAP searches a

current bandwidth allocation data structure (e.g., the table in
FIG. 7) to determine whether sufficient slots are available to
be allocated to the requesting terminal for uplink transmission
of data packets having the particular designated priority
status. For example, in processing the bandwidth allocation
request 250 (FIG. 12), the BAP determines whether eight slots
are available in the bandwidth allocation table for GT.sub.2 to
transmit eight P1 data packets. For the sample bandwidth
allocation table shown in FIG. 7, available slots include the
unallocated slots indicated with an entry of "0." Furthermore,
as part of determining whether uplink capacity is available, the
BAP also checks with a demodulator controller 89 (FIG. 10) that
controls the uplink demodulator/decoder 69 to ensure that the
demodulator/decoder 69 will be capable of handling the incoming
uplink transmission at the time it arrives. If enough slots are
available to accommodate the bandwidth allocation request,
the BAP allocates the number of needed slots to meet the request
(block 218). In that regard, information is entered into the
table identifying the ground terminal to which the slots are
allocated and the priority status of the data packets to be
transmitted in those slots.(col. 15 lines 30 - 56 of Montpetit).

Thus, the allocation of bandwidth is determined based on satellite resource

allocation including information related to satellite capacity.

As to claims 7 and 29, Montpetit and Ishi have been discussed above.

Specifically, see the rationale for the rejection of claim 1. Obviously, the user of the

interface on the ground station could be an Engineer or the like.

Allowable Subject Matter

4.   Claims 31 and 33 are objected to as being dependent upon a rejected base

claim, but would be allowable if rewritten in independent form including all of the

limitations of the base claim and any intervening claims.

Additionally, as described in the 112 rejection above, "relate to" is indefinite. The

term should be replaced with "include," "consist of," or the like.

Response to Arguments

5.   Applicant's arguments with respect to claims 1 – 10, 15 – 20, and 27 – 33 have

been considered but are moot in view of the new ground(s) of rejection.

Note that the previous rejection was silent on whether Montpetit taught the

claimed "capacity allocation plan." However, further review has shown that Montpetit

does in fact teach this limitation. Montpetit teaches the capacity management unit

receives a "specified volume of data packets" from the remote user (col. 8 lines 32 – 35

of Montpetit). A specified volume of data packets reads on a capacity allocation plan

inasmuch as the received volume of data packets is considered the plan sent from the

remote user for capacity allocation. In other words, the received volume of data packets

informs the satellite of what the remote user plans or requests to be allocated.

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

US 4,430,432 (Saga et al.) – "Switch matrix apparatus for satellite-switched
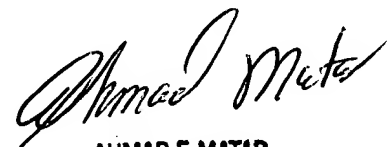
TDMA systems or the like"

7.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aamir Haq whose telephone number is 571-272-5511. The examiner can normally be reached on Mon thru Fri 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ahmad Matar can be reached on 571-272-7488. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A.H.
October 23, 2007

AHMAD F. MATAR
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2700